



MAGAZINE

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FRONT COVER: "Sussex Farmhouse,"
by Miss E. E. Atkins (Head Office)

OUR CONTRIBUTORS

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Foremen In The Making

By Michael Danckwerts (News Editor)

The backbone of industry is the foreman. In the selection and training of foremen Billingham Division run courses of thirteen weeks spread over the year, one week at a time. Here is an account of a typical day's work.

THE old-time foreman, with his bowler hat, ready fist, and power to hire and fire, disappeared from the English scene some fifty years ago. Everyone knows that. He was replaced by a man of less dictatorial powers but greater persuasion, of the gentler kind; his grip on the men was based on personal qualities and a knowledge of the job derived from long experience. Today an even newer type of supervisor is on the way up—a man specially educated and trained to leadership by management.

Billingham Division have more than 250 foremen on the Billingham site alone. 160 are due to retire within the next ten years, which means that 160 chargehands will step into their places. Even since the war the supervisor's job has become more complex. There is many times more capital at each process worker's elbow than before. Instrumentation has increased to the point where instruments and controls account for about 7% of the cost of new plant. There is more paper work. The pace of productivity is becoming hotter. The number of specialists is increasing. Materials are more expensive. Workers are more enlightened, and there is less and less room for mistakes.

Eight years ago Billingham borrowed an Alkali Division idea and started a school for potential foremen. Since then 150 chargehands have undergone the course, and 100 of them are already putting into practice as foremen what they learned. Candidates are selected by works managers in consultation with the Education Department, which runs the course. It lasts for thirteen weeks, but each week's instruction is followed by a fortnight back on the plant—a safeguard against mental indigestion and a good opportunity for the men to apply in practice each phase of their classroom instruction.

Nine chargehands were on the course when I visited the school. Their average age was 35. This was the second week of instruction, and they were just finding their feet and becoming more vocal and assured. Discussions play a large part in the course, and the course tutor, who had been a general foreman himself, was always ready to stimulate a flagging discussion with stories from his own experience.

Split into two groups, each with a leader, the chargehands were analysing problems in human relations. Jack, leader of the first group, was reading from a slip of paper.

"Now this is our problem," he said. "An aggressive man, aged 35, refused to carry out a legitimate instruction given by his chargehand. For this—and taking into account his past history—he was given three days' suspension. Two days after re-starting work he waylaid the chargehand outside working hours and threatened him with violence. If you were the chargehand, what would you do?"

George rubbed his chin reflectively. "Well," he said, "I suppose the first thing we ought to ask ourselves is, 'Do you take him round the corner and settle it that way?'"

"Fatal," said Len.

"Must avoid a brawl," said Percy. "It wouldn't get you anywhere. I'd say you ought to look into this man's history—find out *why* he was aggressive. Does he dislike his job? Has he got family troubles?"

"Something in that," said Jack. "But if the man is just naturally aggressive, maybe the chargehand should put him on a job where he works on his own, so he *can't* get into trouble."

"Sign of weakness," said Len. "Anyway, that's all past history. What do you actually do when he squares up to you outside the gate?"

The discussion went on, the views of the group slowly crystallising. Later in the morning the two groups met to compare their solutions to the problem in the hearing of an instructor, and from their discussion emerged a composite solution: avoid a brawl by calming the man, report the matter to the foreman, and then take steps to find out what is causing the man's grievance.

Pooling Experience

The obvious solution to a trivial question? That retort is apt to rise to the mind of someone hearing this paper problem demolished in a classroom. But trivial human relations problems usually become serious ones unless they are properly handled in the beginning, and the way to handle them on the spur of the moment is never so obvious. The whole training given these potential foremen aims to eliminate the emotional, spur-of-the-moment answer to a situation that confronts them suddenly. "Think first" is the maxim reiterated by the instructors; "*analyse* the problem. Then act."

The men now split into groups of three. Each group was told to select from their own experience a problem in human relations, which they could present to the others with the query "What would you have done?" After discussion they revealed to the class what they actually had done in the given circumstances.

Frank Questions and Discussion

In the afternoon an American film, *The Inner Man Steps Out*, gave point to a talk by one of the instructors on discipline. "Avoid sarcasm," he told his pupils. "If you have to reprimand someone, keep it crisp, keep it cool, and don't get involved in an argument. Have all your facts. Don't drag up past issues; and when this reprimand is finished, let it be done with. Above all, set a good example yourself, and always make it obvious you are trying to help your men; an informal warning will often set a man on the right road." The pupils were not backward in asking questions, and frankly challenged some of the instructor's pronouncements. He encouraged them to argue and to draw from their own experience to back up their arguments. "You can't lay down hard and fast rules about these things," he told them. "But here are the basic principles, and I want you to think about them."



A LABORATORY CLASS FOR POTENTIAL FOREMEN. *Out of the thirteen weeks spent on the course intermittently over the year, 28 instruction periods are devoted to learning the elements of science.*

Interpreting the Company's labour policy is another aspect of the supervisor's job. What is the Company's policy? The Billingham Labour Manager came along to tell them. Broadly speaking, I.C.I. set out to see that for each man there were fair wages, security, opportunities for joint consultation and good working conditions. The Labour Department would like to see more problems solved on the factory floor, so that fewer would turn into something really big.

Here again informality was the keynote. The chargehands fired questions at the speaker, and there was no shirking awkward issues or pretending that management was infallible.

The art of managing men and the techniques of management occupy about one-third of the course. Science teaching, including physics, chemistry, and mathematics, and information about Billingham and I.C.I. occupy the remainder. Any man who has already been promoted to chargehand can claim some knowledge of human relations. But valencies, densities and decimals, latent heat and heat exchange, the use of a slide-rule and the making of graphs may be

strange to him. At the age of 35, with school twenty years behind you, it is no joke (as one pupil told me) to set your mind working on these unaccustomed lines. There is homework to do, and examinations come towards the end of the course.

But if the laws of physics come as a surprise to a man who is accustomed to juggling on his plant with pressures of 250 atmospheres and temperatures of 1000° C., they usually come as a pleasant surprise. One man was so intrigued by the elementary chemistry he learned on the course, an instructor told me, that he signed up for a year's evening classes in chemistry immediately afterwards. The school has its own laboratory, and here the practical work takes place.

A whole day's explanation of the Billingham flow-sheet occurs in the second week, and there is a talk about the development of Billingham processes in the first. The pupils are taken on visits to some of the works of Billingham factory (which they may never have had an opportunity of seeing before), to the workshops, the apprentice school and the anhydrite mine.

Is the course a successful way of training a



LECTURES BY EXPERTS are a feature of the course. They alternate with discussions, factory visits and work in the laboratory. Here a member of the Division Safety Department is addressing the class.

chargehand to step into a foreman's shoes? Well, ask the works managers! Deprived of their chargehands' services for thirteen weeks in the year while they attend the school and saddled with continual adjustments to their supervisory force as a result, they still nominate more candidates than there are places available. "I consider this course has done a great deal for the men we have since promoted to foremen" is a typical comment. Even during the course most of the pupils gain emphatically in self-assurance, and they go back to their plants with the feeling that the management is backing them to the hilt to replace, perhaps, the feeling that they are small cogs in a very large machine.

The fact of having been on the course carries no guarantee of promotion. But some Billingham works managers will not consider making a man foreman unless he has taken it. Downright failures are rare, because candidates for the course are chosen carefully.

What do the potential foremen themselves think of their year's schooling? There is a feeling current at Billingham that the course is an extremely stiff one,

and some men are daunted by the prospect of taking it. Many change their minds about the difficulty of the course once it is under way, but even those who do not, overcome their fear and enjoy themselves. They do not feel the course should be shorter, and some even feel it should be longer. The Education Department recently carried out a survey among "graduates" of the school which confirms these random opinions. A source of satisfaction to these men has been the discovery that the Company's point of view on human relations is theirs. They have enjoyed greater confidence in managing men, and managed them more effectively with their knowledge of the logical, rather than the emotional, approach. Some men threw in unsolicited bouquets to the management by mentioning that the wealth of knowledge offered them had given them a greater respect for management generally; they had previously been tempted to think that both junior and senior management had an easy time.

One "graduate" summed up his attitude in these words: "It was just a job once. Now I feel I'm part of something bigger, and the job has a new interest."

RUBBER-COVERER

MY guide stooped and whisked the rubber tread from a step of the iron stairway we were climbing. He twisted it, let it flap back, and then slipped the shaped edges over the iron step. It snapped into place.

"That's one of the things we've made," he said.

We climbed on, our boots falling safely on the rubber-covered stairs, until we were 70 ft. above the floor in the sulphate crystallisation plant at Billingham. Then up a ladder to peer down into the half-darkness of a large empty cylindrical vessel lined with rubber.

A simple thing, that rubber tread. And that rubber lining, something not so simple. They are part of the work of a small gang of men who, for want of a better name, are known as rubber-coverers.

Back safely down the stairs, I found Charlie Townsend in the workshop. It is 26 years since he started covering things with rubber.

If you have ever tried playing around with rubber you know what infuriating stuff it is, possessed of some devilish imp that makes it bubble and twist and bulge just where you don't want it to. Charlie and his colleagues know how to tame that imp.

Among rubber's very useful properties are resistance to corrosion and abrasion, and although stainless steel has reduced its use in recent years it still has extensive application. Vessels and pipes of cast iron and mild steel are lined with it, and as a laminate with canvas it remains the most widely used material for conveyor bands, of which there are scores of miles at Billingham.

There is something of the virtuoso about the man who works with rubber. With a carborundum stone Charlie put a razor edge on an evil-looking knife. He eyed a curious vessel on the bench, took one quick measurement, stood back and judged the shape, slashed a piece of rubber from a roll and deftly put a chamfer round the edge.

"You can't work to rule of thumb at this," he said. He counted quickly. "About fifteen pieces to go in here, nearly all a different size and shape." He brushed a black treacly solution on the rubber. "With so many different jobs," he said, "it's not often you can use a template."

Corrosion plays havoc with vessels and pipes of cast

iron and mild steel, and to protect them the rubber lining must form a complete seal. Expertly applied, it has a minimum life of about two years and may last as much as fifteen. The raw material is "uncured" rubber, softer and less resilient than the stuff you know in rubber bands or motor tyres, and it comes in sheets of varying widths and thicknesses. The process starts with the thorough cleaning of the metal, where possible by shot-blasting. Then comes a priming coat of a rubber solution, followed by one or more coats of a thicker solution. After a coat of the same solution the rubber has to be put accurately in place before it sticks, and this is achieved by having a sheet of brown paper between the two solutioned surfaces. When the rubber is in place the paper is carefully withdrawn.

The next stage is as important as the cleaning. There must be no air bubbles beneath the rubber, or when being vulcanised by heat the air will expand and cause a blister. A small heated roller, similar to that used for perfecting seams in wallpaper, does the double job of sticking the rubber to the metal wall and ensuring that no air is trapped.

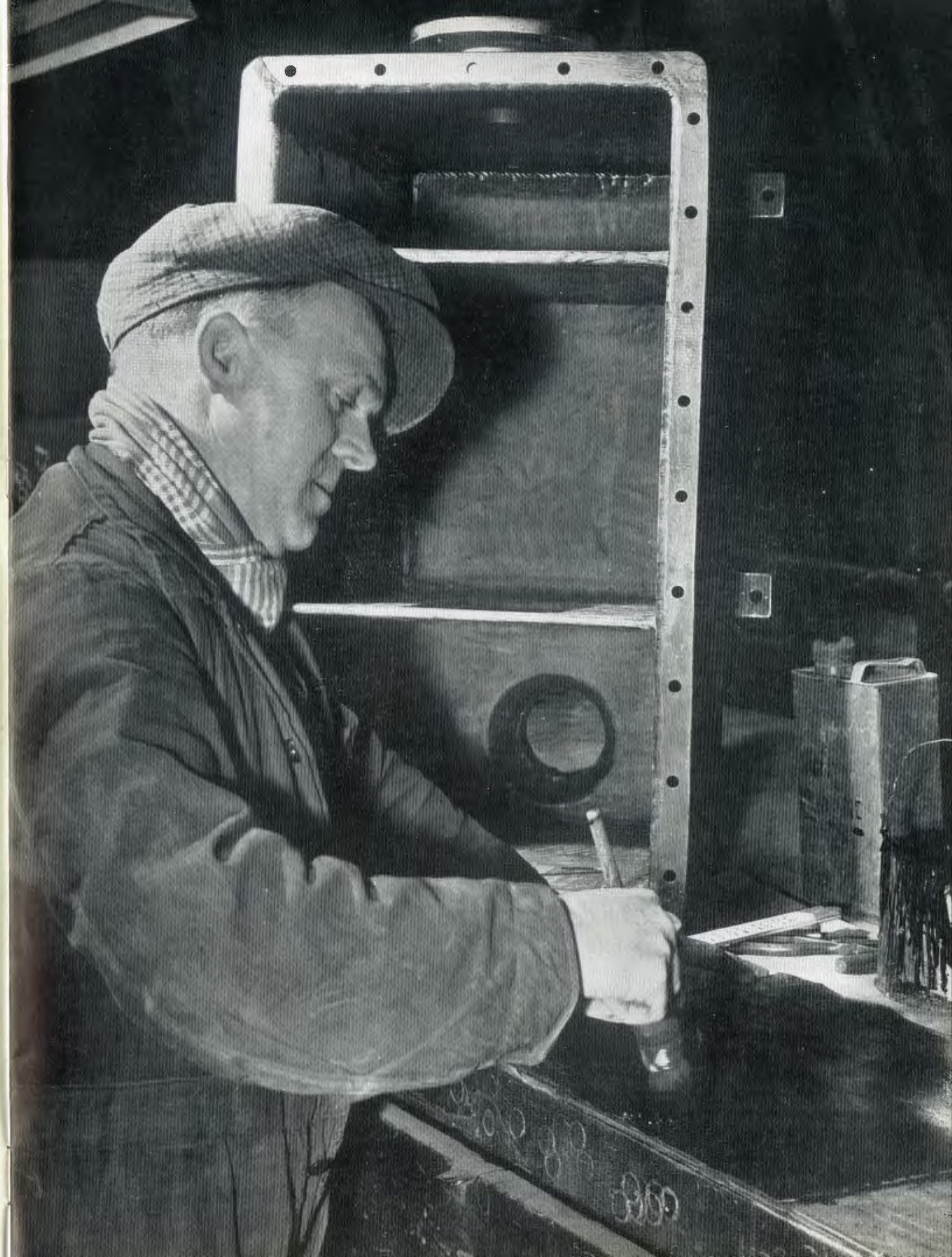
"And when you've done," says Charlie, "you can tell by the sound when you tap it whether you've got a proper seal." Perhaps Charlie's ears are attuned for the warning of slight sound variation, but just to make sure they give the job a high-voltage spark test. There must not be even a pinhole to let liquor get behind the rubber. The final stage is the vulcanising by heat treatment for several hours to complete the seal, and "cure," or harden off, the rubber.

As with most jobs, when you can see what you are doing it is just a question of know-how, but you cannot always see what you are doing. "Now take a nine-foot pipe," said Charlie. "You can get your arm in a couple of feet each end, but what about the middle?"

"Ah, what about the middle?" I said.

"You use a rod," said Charlie, "and you can tell by the feel of it whether it's going as it should."

"We get some queer jobs at times," said Charlie. He renewed the edge on that evil-looking knife. "Twenty-six years, and I reckon I've still a thing or two to learn." J.M.



Charlie Townsend

Information Notes

THE FLECK REPORT

The Advisory Committee appointed "to consider the organisation of the National Coal Board and make recommendations" published its report last February. The report, at once labelled the "Fleck Report" because the five members of the committee had elected Dr. Fleck their chairman, received wide publicity and a warm welcome on all sides for its courageous and frank thinking. Here are comments from The Times, the Daily Herald, the Manchester Guardian and The Observer.

Under the heading "Looking Forward" *The Times* wrote:

THE Fleck Report is a fascinating and invaluable document. Not the least of its virtues is that it clears out of the way a good many clichés as to what was hitherto supposed to have been wrong. Thus, the main structure of the organisation is sound. Both the divisions and the areas are the right size. Control from the top needs to be stronger rather than less so. Far from there being "hordes of officials," a higher ratio is needed. Quick promotion has come to more people than is good for them or the industry. Instead of major capital projects being dealt with too slowly at headquarters, they have not had scrutiny enough. The other great service that Dr. Fleck and his colleagues have given is that they have not hesitated to look frankly at the Board itself.

It would be wrong to suggest that the picture they present is a uniformly black one. If defects are stressed

it is because, whatever else may need to be done, the industry will not be healthy before they are put right. Everything depends on a firm, efficient, and harmonious board. What are the facts?

The Report says that the Board's experience in the past eight years of working together as a team has not been happy. Departments at headquarters have not always or consistently received from the Board the support which is their due. The Board has had an indecisive attitude towards decentralisation. There has been confusion in the industry about the use of the functional channels. The Board's general directive of October 1953 is severely criticised and its withdrawal recommended. The committee were not satisfied that policies and decisions emanating from the Board's headquarters were being properly carried out. It is a grave indictment.

Under the heading "Ex Pit Boy Jim Gets Top Job in Coal Board" *Stephen Parkinson of the Daily Herald* wrote:

THE report of the committee, headed by Dr. A. Fleck, chairman of Imperial Chemical Industries, makes 61 recommendations altogether on the Coal Board's organisation. But first it pays tribute to the "considerable achievements" of the Board's pioneers. In a few months they took over 1000 pits run by 800 companies and "in the face of difficulties that could have been overwhelming" welded them into a single undertaking.

The committee wrote separately to Mr. Lloyd suggesting that the Board should be reorganised with twelve

members. Mr. Lloyd acted on this at once. He told the Commons yesterday that Sir Hubert Houldsworth would remain chairman and that Mr. Bowman would become deputy chairman from next Monday. . . .

What criticisms does the 105-page report make to give the coal industry the "technical and managerial renaissance" which Mr. Lloyd says it needs to fit it for the atomic age?

First, the structure and principle of organisation are sound, but the committee is not satisfied that headquarters policies and decisions are properly carried out in the

divisions and areas. From the start the Board tried to control with a very light touch. Having adopted a policy, it was often too half-hearted in holding to it. Poor tone of management in some places is due also to bad discipline among the rank and file, leading to stoppages and bad labour relations.

Under the heading "Milestone" *The Observer* wrote:

WITHOUT fuss or fanfare, we passed last week a significant milestone in the social and economic evolution of our democratic society.

The Fleck Report on the organisation of the National Coal Board did not cause much stir. Yet here was a group of men, led by the chairman of what the Socialist jargon of twenty years ago would have described as "the biggest citadel of monopoly capitalism," giving sound and sensible advice on the operation of one of the great socialised industries. And here was a Conservative Government agreeing promptly with the capitalists' proposal that the best man to become heir-apparent in the nationalised Board, and to preside over a new and more energetic chapter of the industry's development, was a trade unionist—Mr. James Bowman—who only five years ago was vice-president of the National Union of Mineworkers.

The whole incident has been accepted as perfectly normal and natural. Yet the political implication—which surely is that industry is not, after all, a major battleground in the class war—is still far from being recognised, let alone acknowledged, on either side of the political fence. . . .

The Report itself is a crisp and businesslike document,

Under the heading "The Fleck Report" the *Manchester Guardian* wrote:

THE Fleck Report on the National Coal Board is of great importance. It is a real service to the country, and if it is acted on promptly and with thoroughness there should be a great improvement in the conduct and performance of the coal industry. . . .

By going carefully through the whole administration of this immense industry, with its 700,000 workers and its financial turnover of £700 millions, Dr. Fleck and colleagues have done what was wanted in an admirable, detached and yet thoroughly understanding way. Their report will become a classic of industrial management. They give full weight to the difficulties which the Board had to meet and the way in which it faced them. . . . But it was time for an overhaul; lately the industry has not been doing too well in its job of producing coal; and the criticisms, not all of them well informed, have been mounting. Every nationalised industry must benefit from periodical review, although, as the Report suggests, they must not come too frequently. The industry must

The solution is—
to strengthen discipline, goodwill and leadership;
to clarify the meaning of decentralisation;
to define clearly the management's powers at every level.
Standards must be firm, and measures to improve control are suggested.

full of horse-sense. Its most important recommendation—which has been immediately implemented by the Minister of Fuel—was on the character and membership of the Board. The Board, it said, must emphatically be executive and functional, made up primarily of men directly involved in the running of the industry. . . .

The Report's second recommendation, contained in and underlying a whole series of practical suggestions, was that the new Board must energetically exercise "thrust from the top"; it must, that is, establish a chain of command which will ensure that its policies are more quickly and effectively carried out. Decentralisation, in other words, is an extravagant luxury when the main problem is that of raising the standard of the least efficient pits to that of the most efficient.

The industry's greatest problem, as we ourselves have often said, is its shortage of really good trained managers. This is stressed again and again in the Report. To get better managers, and more of them, the industry must recruit and train more intensively. It must pay higher salaries to attract and hold the high-calibre men it so desperately needs. And it must work out and vigorously pursue a policy of retiring men who are not up to their jobs.

have a chance to settle down and get on with its job.

It is impossible to go in detail into all the Report's numerous recommendations, but the outsider must be struck with two things. First, the Coal Board itself has lacked continuity. It has been in existence nine years and only one of the original members remains. Then also it has suffered from lack of cohesion.

However competent individuals may be in their own particular fields, it will be no use appointing them to the Board if their personalities are such that they cannot work together as a team. In this respect the experience of the Board in the past eight years has not been happy.

The Report thinks the industry ought to "breed its own full-time Board members" and not look outside. Secondly, in words that apply to more British industries than coal, the Report says:

We have come to the definite conclusion that one of the industry's greatest needs is better management at all levels; in other words, more people of ability, new and better techniques for them to use, and firmer discipline.

A SALESMAN IN AFRICA

By G. P. Hartshorn (I.C.I. South Africa)

Life in charge of an I.C.I. sales office in the outposts of the empire is no sinecure. Technical Service and Sales Departments are 1000 miles away. Left to your own resources, you have a staff of one assistant and a couple of African boys; and every conceivable problem—chemical and otherwise—is thrown at you in a territory of 250,000 square miles.

MY interest in the problems and future of Rhodesia took a new turn when I was posted to Ndola in Northern Rhodesia in September 1950 to open a branch office of Imperial Chemical Industries (South Africa) Ltd.

The staff of the Ndola office consists of myself as local representative, Mrs. Joan Shafer as typist cum general factotum, an African office boy and African storekeeper. Between us we stock and try to sell the majority of I.C.I. products as well as the products of a number of other companies for whom we act as agents—plastics, pharmaceuticals, ammunition, 'Alfloc' chemicals, dyestuffs, xanthates of Robinson Bros. and "Calgon" of Albright and Wilson being the most important. In addition we provide technical service, produce invoices, regulate stock levels and progress stock indents, collect and bank payments from customers, entertain visitors, try to balance the petty cash, act as a general information bureau on any vaguely chemical problem, and generally help to keep the I.C.I. flag flying in Central Africa.

On top of all this I seem to find time to be on the executive committee of the Ndola and District Chamber of Commerce and Industry, to be secretary of the Ndola Ratepayers Association and to be—I hope—a good husband and father, while Mrs. Shafer somehow gets her shopping done and runs a home as well.

Telephone and telegraph communications are erratic and time-consuming, so that we are thrown very much on our own resources. Mr. Harris (manager for the Rhodesias) is based in Salisbury 550 miles away, while our technical service and sales departments are in "head office" Johannesburg, 650 miles further still. Most of the Europeans in Northern Rhodesia live in the Copperbelt, an area of some 2000

square miles alongside Ndola, while the 2½ million Africans inhabit most of the rest of our 250,000-odd square miles, over four times as large as England and Wales and twice as large as the British Isles. On the line of rail south are Broken Hill (120 miles), Lusaka (210 miles) and Livingstone (550 miles). To the north lie Fort Rosebery (200 miles) and Abercorn (500 miles), so there is plenty of room to move about in.

My high-powered car goes a long way to making travel on bad roads comfortable and fast, although an extensive tarring programme is helping considerably. Instead of the weather, the roads are our main topic of conversation, and a visit to the golf club of an evening will always provide the latest reports. "Came up from Lusaka this morning. They've had a grader on as far as the Mumbwa turn-off, but that last bad stretch into Broken Hill's a shocker. Nearly busted a spring in the Kambowa potholes. Another inch of rain at Kapiri and we've had it." And so on.

A typical day's outing to the mines will start about 7.30 with a twenty-mile run to the Roan with a case of urgently required penicillin in the car. The mine hospital pharmacist greets me with a smile and a shout of "Boy! Teal!" and we get to discussing future requirements and the likely demand for 'Mysoline' introduced by Geoff Harrison, our pharmaceutical rep., during his last trip up from Salisbury.

My next call at the mine offices produces the usual crop of people underground or ten miles out in the bush seeing to a drill breakdown, but I am able to learn from the foreman fitter that the necessary modification to those loco briquette feeders is in hand and they should be installed and ready for further trials by Friday. I



TYPICAL OF TRAVEL CONDITIONS in Rhodesia is this ferry across a river. In Africa the state of the roads, not the weather, is the staple topic of conversation.

had better contact the chief engineer when he surfaces again.

At 11.15 I have an appointment with the buyer to discuss the prospects on the mine for our newly acquired Taylor Woodrow agency. He suggests that I see the chief architect, who is planning an extension to the stores and who has to provide 1200 garages for staff houses in the next two years. But that will have to wait, as I have a lunch date with the power station chemist at Nkana 35 miles away.

It's warming up by now, and the narrow ten-foot tarmac strip down the centre of the road shimmers in the sun, merging in a mirage with the sky at the crown of the rise ahead. Distances and shapes are deceptive, and an odd-looking elephant on stilts in the haze ahead turns out to be three Africans on bicycles who suddenly emerge from the dust in front and wobble past to disappear in a shouting, laughing crowd behind.

Lunch over, a further couple of visits to discuss the non-arrival of a ton of trisodium phosphate and a trial installation of 'Coroplast' and it's time to beat it back to the office.

Arrive just in time to catch Mrs. Shafer packing up for the night, to find the usual pile of paper on my desk. Good! That promised order for 'Melacos' from the brewery and an order for a trial ten-ton lot of sodium ethyl xanthate for Nkana; a set of price book replacement sheets and a weekly News Bulletin; Blank's dry cleaners

in Livingstone are making a fuss about their last delivery of perchlorethylene and the degreasing plant at the P.W.D. in Lusaka has packed up again; sixteen mistakes in our last stock return and Head Office want to know why they have not had my sales commentary for last month yet. Y's Engineering still have not paid for that cylinder of 'Arcton' 6, and a special Chamber of Commerce meeting is called for the 15th to discuss the new customs tariff; Mrs. Shafer has some notes—A's sports shop want 1000 yards of 0.016 in. 'Luron' 2 and we have no stock—should we try to get some from Salisbury or wait for that indent that was supposed to have left Beira six weeks ago?

The storeboy reports that two empty methyl chloride cylinders have arrived without labels or waybills; can I find out where they came from so that we can pass credit? We are nearly out of quarto letterheads and the electric kettle will not work, so we cannot boil water for the water cooler. X phoned from Broken Hill and wants to see me as soon as possible about that underground pipeline corrosion they wrote about last week. (Looks like a week's trip to Lusaka piling up; but Smith and Jones will be here next week from Plastics Division and the week after. . . .) Oh, your wife came in to say to remind you that the Macs are coming to dinner and not to be late home.

Ah, well, that is a good excuse for leaving the whole lot until the morning and getting back to a bath and a nice cold beer.

Garden Notes

By Philip Harvey

Illustrated by Priscilla Hanbury

HAVE you given your lawn the first cutting? Mowing should start as soon as the grass begins to grow and the first few mowings must be light, the knives being set fairly high. If you wait until the lawn is several inches high and cut closely, the roots of the grasses may suffer, which is a serious drawback in very dry weather.

Before taking out the mower from its winter quarters, make certain that there is no dirt or rust left on the knives, roller and elsewhere. An oily rag or old paint brush will soon clean the machine. In theory, the mower should have been cleaned soon after the last autumn cutting. In practice, many gardeners leave this tedious job until spring; but it saves trouble if you give a thorough cleaning and oiling in early autumn, including a greasing of the grass-box and stand the mower on boards covered with sacking or tarpaulin until spring arrives. On some lawns an occasional light mowing in winter during mild weather may be beneficial, but I would hesitate to try it on my heavy soil.

To return to spring and summer mowing, the golden rule is regular light mowings, never occasional heavy ones. The truth of this oft-repeated advice was borne out last summer, when continuous drenching rains caused strong, lush growth. Where cutting

was delayed for say ten days, mowing a decent-size lawn took an inordinate time, as close mowing was necessary, not to mention frequent emptying of the grass-box. Close cutting, especially in wet weather, often tears at the roots of the grasses.

The groundsman refers to frequent light cutting as "topping" and often does this nearly every day in summer. Regular light mowings are obviously far less tedious than occasional close mowings, and the long-term effect is a denser, deeper-coloured turf, less plant food being taken from the soil.

During dry spells mowings should be less frequent, and it is advisable to leave the grass-box off the machine, so that the clippings can return to the soil where they will eventually decompose, making additional plant food. Returning the clippings does, however, tend to encourage worm casts, and I would not recommend it as a regular practice, especially on a very weedy lawn, as there is always a risk of spreading weed seeds. As with many gardening practices, there is no hard and fast answer.

Never mow when the lawn is excessively damp, as it takes far longer and clogs up the mower with dirt. Mowing when the grass is slightly moist does not matter. It is always best to mow up and down one day, and at right angles the next time.

Nowadays there is no excuse whatever for

a lawn smothered in plantains, daisies, creeping buttercup and other pernicious weeds. But do not just put 'Verdone' on when you feel energetic. The right time to tackle the weeds on your lawn is when the weedkiller is likely to have the maximum effect.

Spring and late summer applications are best, as weeds will then be growing very vigorously and can absorb the weedkiller more readily. Never apply during a drought, as on light, dry soils especially the weeds are then too tough to absorb the material. About ten days before using 'Verdone' give a dressing of any complete fertilizer, watering in if the ground is at all dry. The idea is to help the grass to grow when the weeds have been eliminated. This usually takes from three to eight weeks, though I have noticed the first signs of distortion of the weed foliage within an hour of applying 'Verdone.'

We are always told that a really fine surface tilth is essential for the majority of vegetable seeds. On very light soils it is comparatively easy to achieve this. On heavy, sticky ground the job is much harder, as I know from bitter experience last spring after taking on a new garden! Such soils require longer to warm up and are invariably still wet just when you can spare the time to get down to some honest digging!

Work-in generous supplies of compost, peat, sand and (if you can get it) well-rotted

horse manure. These and similar lightening materials will make a considerable difference. A further help, especially in continuous wet weather, is to fill the seed drills with peat and sand after sowing. This reduces the risk of the seeds rotting before they have a chance to germinate.

The V-shaped drill is preferable for most small seeds, though peas and beans are generally sown in flat-bottomed drills. Small seeds need only sufficient covering of soil to make them invisible, but larger seeds like beet will take about $\frac{1}{2}$ in. of soil over them. Peas are, of course, very large and should go 2 in. deep, beans a little deeper.

A fine tilth for sowing flower seeds is just as necessary as for vegetable seeds. Any soil that is in good heart will grow excellent hardy and half-hardy annuals, but the addition of moist peat is always helpful on light, dry land to help conserve moisture during drought. A sunny position is essential for most annuals. Leave the half-hardy annuals like asters and stocks until May, but sow hardy annuals like alyssum, clarkia, godetia, cornflower and so on without delay.

Planting first early potatoes in March is often a mistake on cold, heavy soils. Early April is much better. If you failed to prepare the ground properly in winter, you can still spread well-rotted manure or compost in the drills and set the tubers on this.

Yugoslav Holiday

By P. J. M. Aston (Alkali Division)

Nearly 3500 miles on a motor bike, most of them in Yugoslavia—this was P. J. M. Aston's holiday last year. He is an observant traveller, and here are his impressions of a friendly people.

MY first introduction to the Yugoslav people was a promising one. After a fast trip by motor cycle through Belgium, Germany and Austria I crossed the frontier at a small post in the Julian Alps. The Yugoslav side was manned by a company of four, in charge of passport inspection, vehicle document inspection, money-changing and the barrier respectively. Each in his turn was both friendly and helpful, and as I prepared to drive away

they all lined up beside the barrier. Then, as I let out the clutch, they came to attention and saluted, in a friendly un-military way, the salute turning to a wave as I drove off. This friendliness was very evident throughout my trip.

In conversation the people were not at all restrained, even on political affairs. Most of those to whom I talked seemed to take a lively interest in world politics, and were knowledgeable about events in England. By nature the Yugoslavs are great talkers, and not having many of the artificial entertainments such as TV and the cinema, café conversation is very popular. One rather neat political comment which I have not heard from any other source was given me by a Yugoslav in Sarajevo, apropos the Germans. "We understand," he said, "that they have rewritten the first line of their national anthem, and that it now goes 'Deutschland, Deutschland über Dulles'!"

Yugoslavia is undoubtedly a backward country by Western standards, and one illustration of this is the virtual absence of motor traffic. The best road in the country runs between Belgrade and Zagreb, a distance of 250 miles. It is literally dead flat all the way,



FISHING NETS OUT TO DRY by the Gulf of Kotor, with the barren Montenegrin mountains rising in the background. A scene peaceful enough in summer but liable to be disturbed by violent storms in winter.

nearly dead straight, and was all constructed, for the most part of concrete, after the last war. I do not suppose I saw more than twenty vehicles the whole 250 miles, and that was on a weekday.

It was on this stretch that I was foolish enough to run out of petrol. To do this in Yugoslavia can be very awkward, for petrol pumps are a rare species. As far as I could gather, Zagreb, which is the capital city of Croatia, had only one filling station, selling 70 and 74 octane petrol, both very poor quality. (An attendant at a filling station in Trieste, when I had just crossed the frontier, opened my tank and exclaimed "Ah, this Yugoslav petrol stinks!"—and it does.) Anyway, I ran out thirty miles from Belgrade, and things looked pretty grim. Then I was directed by a peasant, whom I approached for advice, to a

nearby farm where I could see a number of tractors (a great rarity). None of the workers at the farm could speak German (which was the language I "ran on" in Yugoslavia), so we had to employ sign language.

Eventually they produced a drum containing a few dregs of fluid which smelt like petrol and poured these into my tank, carefully keeping back the water which proved to be part of the mixture. Presumably the petrol was for starting the tractors. As this was the last petrol they had, I could not quite fathom how the tractors would be started in future. Relieved to have found a means of making Belgrade other than by pushing, I offered to pay for the petrol, but this offer was not accepted (in spite of obvious poverty). So I then indicated that the money should

be used for having a drink on me. Whereupon the money was passed to the oldest man present. Understanding my meaning, he began to play the fool, pretending he had spent the money and was now very drunk in consequence. Such incidents are typical of the native sense of humour.

I was away from England only a little over a fortnight and covered nearly 3500 miles. Some of this travel was, I confess, a little uncomfortable. I had been warned of the Yugoslav roads, but many of them surpassed even my expectations. Particularly between Belgrade and Sarajevo the surface was quite shocking, worse for miles on end than an English farm cart track. In the mountain districts, on the other hand, the surfaces were on the whole quite respectable, and in the north as well they were passable.

The hotels at which I stayed were, with two exceptions, situated in largish towns. They were comfortable, with all mod cons and very reasonably priced. There were, however, two unusual points. In the first place, I can remember no hotel in which the wash-basin in the bedroom had a plug to it. There was not even a chain to which a plug could be attached or a point of attachment for such a chain. The reason for this is still a mystery to me. The other odd thing was that I never had a call in the

morning. I would ask for one each night, and the room number and time of call would be recorded either on a blackboard or in a call-book, but nothing ever came of these formalities. After a time I gave up trying.

My most interesting night in the country was spent at a small town called Zvornik between Belgrade and Sarajevo. Here, at the only hotel in the place, I was given a bed in a room which I was to share with a captain in the Yugoslav army. He could speak no English or German but was manifestly friendly. We both turned in about 10.30, but as it was Saturday night and our room was right above the bar we did not get much peace for the next hour or two. Then, just after midnight, a terrific shindy started up outside our window, and it was obvious that a fight was about to develop. I could pick out the words *Partizanski* and *Communistische* being hurled across the ring, so took it to be a political argument.

After a few minutes the captain decided to intervene, got up, put on his breeches, boots, tunic and cap, and disappeared downstairs. After a while the row subsided and he returned to bed, indicating that the persons concerned had been drunk. Unfortunately peace did not reign even then. The crowd returned to the bar to finish the night's drinking and singing, which went on till nearly 3 a.m. Then, just as I had

got nicely to sleep, there was a terrific banging on the front door of the hotel. Up jumped the captain (for it was one of his men come to collect him), washed, dressed, packed his bag, shook me by the shoulder to say goodbye, and was away. The time was now 4.30 a.m., and after this there was peace till the household began to stir about 6. An interesting but definitely not restful night!

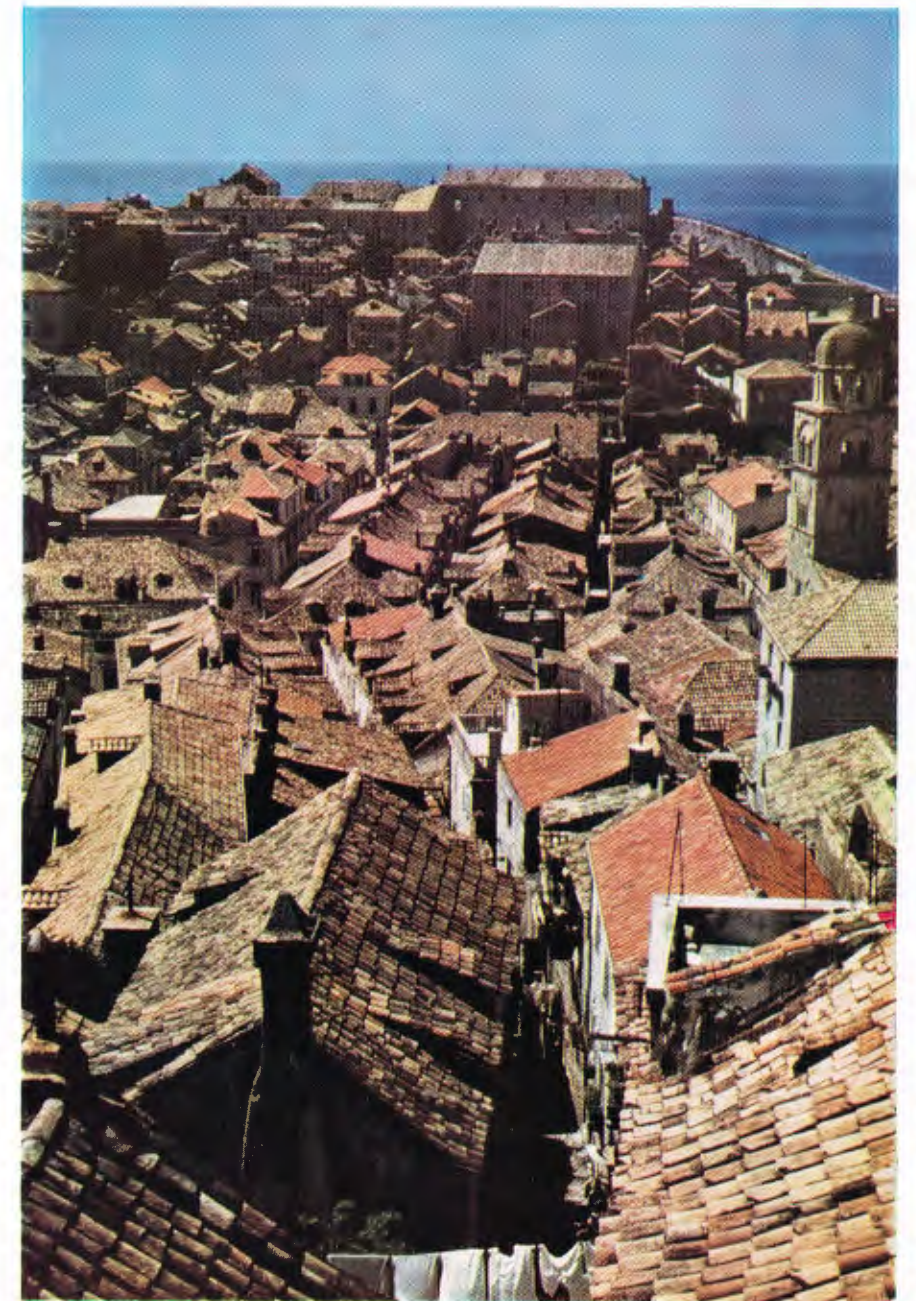
So far I have made no reference to the scenery of the country. Except for the Serbian plain, which is as flat as the Fens and very much bigger, the scenery is a succession of

contrasts, and I never found it dull. My route to Belgrade took me across the Alps in the north, through the rolling hills of north Croatia, and over the central plain. From Belgrade to the coast there was a succession of wide views, Alpine-type scenery, wild gorges and sheer, rocky coasts.

No less in contrast are the architecture, physical appearance and way of life of the different peoples which make up Yugoslavia.

Belgrade is practically a new town built from the ashes of the old, so largely destroyed by German bombs; Sarajevo and Mostar are both Turkish in character, with innumerable mosques and their attendant minarets pointing like fingers to the sky; Dubrovnik is a walled and outstandingly beautiful town, built entirely of local stone; while the northern towns of Ljubljana and Zagreb are reminiscent of French provincial centres. The people on the Adriatic coast are fair, blue-eyed and strikingly handsome; in the Turkish parts dark hair and features predominate; and in Serbia there is more than a hint of the Oriental. National variations of dress are tending to die out, but the country people still offer a variety of garbs, some of them resembling Jacob's coat of many colours, being patchwork quilts, illustrating what must be a national ability to make do and mend.

I started by referring to the friendliness of the people and I will end on the same note, for that was my most abiding impression of the country. Children and peasants would wave or touch their caps as I passed. Not because I was British (my G.B. plate, often caked with mud, was not visible until I was gone), but because I was a traveller in a country where travellers are rare. My passing was therefore an occasion.



THE ROOFS OF DUBROVNIK, seen from the city walls. Red pantiles blend with the local stone, but the narrow streets are darkened by shadow and houses are starved of light.



EVENING OVER THE GULF OF KOTOR. The town of Kotor is in the foreground. From this point the road ascends through magnificent scenery into the wild interior of Montenegro.

An Old Hand Looks Back

By Frank Wilkinson (Alkali Division)

My first association with Brunner Mond began early in 1904 when, as a boy, I worked in the time office. Every workman checked in in those days by throwing a brass tally through a slot on to a tray in the time office, and woe betide any workman who failed to reach the slot before the slide went down. On one occasion the timekeeper put the slide down when his brother-in-law was just two yards away. The man had to return home until 1 p.m. I wonder how a rule like that would work today!

My earliest recollection of any unusual happening concerns the fire brigade. The brigade consisted of shiftmen, captained by someone off the engines or pumps, with a manager in attendance.

Practice was on Tuesday afternoon at 2 p.m. for the shift leaving work. A favourite spot for practice was on the river bank so that the hose was played over the river and on to the Stave Yard—a wide open space.

On one occasion when the brigade turned out, complete with engine, the spectators included the cooperage manager and timekeeper, with the office boy further away at a little safer distance. The engine was started and all was splendid for a second or two when, without warning, the main delivery pipe came off the engine. What a rush! Fortunately no one was hurt, but the two nearest spectators made an uncomfortable journey home to get into dry clothes. The office did not require washing out that day.

The following week another rehearsal took place with a different team, who had taken care to see that the main hose was securely fastened. This time when the engine started, two of the firemen had not got into correct position with foot on hose, with the result that the hose was a twisting, twirling, uncontrolled object which struck the window of the little shipping office on the side of the river bank. Great was the discomfort brought to the unfortunate staff.

Let me say here that these are two minor details which fall into insignificance when one remembers

the wonderful work of the brigades in 1900 when the gas producers were on fire. I am sure that was the biggest fire in the history of either Brunner Mond or I.C.I. at Winnington.

Foremen in the early years of this century were rough and ready in their methods. I remember one foreman who, when asked by a labourer for an order for ten dozen bolts, started to reckon thus: "Ten tens are 110. What the devil are ten elevens?" This went on for a few seconds, and the difficulty was overcome when the foreman said "Here's your order—go and bring a bag."

On another occasion the same foreman borrowed a man whom I shall call Bagshott. After Bagshott had been working under him for two days the foreman said to me "Go and work with er—er—er—it doesn't matter a — what his name is—go and work with him."

I remember an occasion when a particularly energetic foreman was compelled to stay at home with an illness. One day the manager saw the foreman's son and asked how his father was. On learning of his improvement the manager said "Tell your father I am glad he is feeling better. No one will be more pleased than I to see him back at work." "That's not quite right, sir," said the young fellow. "Oh?" said the manager. "And who will be more pleased that I to see your father back at work?" "My mother!"

About one foreman, generally known to most men at Winnington, a book could be written to relate all the tales, true and invented; but it might be wise to leave these stories until a later date.

One wonders whether men today are becoming too much of one pattern or whether the supervision is too wide awake to let men get away with the excuses of the past days.

One old hard-boiled rigger was moving a valve weighing perhaps half a hundredweight along a landing and down three or four steps. In doing so the valve dropped and was broken. The usual little enquiry was held, and the manager expressed his



THE MEN OF FIFTY YEARS AGO—were they so different from those of today? This photograph is of the Winnington Works Bowls Team, who were Mid-Cheshire champions in '04, '05 and '06. All wear a stiff collar with their Sunday suits, all but one have moustaches and all but three wear watch chains.

amazement that an old, experienced rigger should have an accident on a little job like that. "Well," said the man, "I am as surprised as you are, for I was sure my line would have held that. Would you like to see the line?" The line was produced and the manager agreed the line ought to have held, so the reason for the accident was put down as "A faulty line."

Knowing the old dog for what he was, I asked for the other side of the story and was not surprised to find he had obtained a new line and fastened one end round a girder, the other on to a locomotive and told the driver to "gee up."

The firm of Brunner Mond & Co. was considered to be one of the best—if not the best—in the country as far as wages, facilities and conditions were concerned. Nowhere else did one hear of a firm which gave a week's holiday to its employees and an extra week's money as a gift. It was therefore with a little

uncertainty that we heard of the suggested combine.

Combines, in the mind of the average person, were concerns whose profit-making was the only thing to be considered and the personnel just pawns. This general opinion was fostered by a letter to the press written by a very influential lady with family connections in the old firm, who assured us that combines were soulless.

How wrong she was, and how groundless our fears, for I consider it would be very difficult today to find a firm where more consideration is given to the welfare of employees. This is specially true if an employee falls on evil times or is involved in an accident. He will receive every necessary attention at work and also is allowed to visit the local infirmary for treatment not available at the works surgery.

Now that I am due to retire, I look back with thankfulness to my long association with the Company.

I.C.I. NEWS

WINSFORD WIN FIRST AID COMPETITION

A TEAM from the Winsford Works of Salt Division won the 16th annual I.C.I. First Aid Competition on 10th March, held at Imperial Chemical House for the first time since the war. With 287 marks they beat their nearest rivals, Castner-Kellner Works of General Chemicals Division, by six marks. Lostock Works (Alkali Division) was third, with 279 marks.

For the first time in the history of the competition two "possibles" were scored in the individual tests. The No. 4 man in the Lostock team and the No. 1 man in the Dowlais (Billingham Division) team both turned in faultless performances. The judge of the individual tests, Dr. J. Gwynne Morgan (chief medical officer of the Mond Nickel Company), re-



The winning team receive the I.C.I. First Aid Trophy from the Chairman

marked on the very high standard of first aid he had seen during the day. Dr. J. S. McLintock (assistant to chief medical officer, National Coal Board), who judged the team tests, also said that he had been impressed by the high standard, which did great credit to the chemical industry of this country.

The presentation of the trophy and prizes to the winners and of prizes to the second and third teams was made by Dr. Alexander Fleck, Chairman of I.C.I. After welcoming Salt Division to the ranks of the trophy-winners for the first time, he congratulated all the teams on their performance. The I.C.I. Board, said Dr. Fleck, gave their wholehearted support to the competition and very much appreciated the work put in throughout I.C.I. to achieve prompt and effective first aid.

Dr. Fleck mentioned that the number of teams which had entered for the competition—107—was a record and that among the finalists were two newcomers: Summerfield Works (Metals Division) and Bain Works (Wilton).

A Division Medical Officer writes:

The climax to the winter training in first aid throughout the factories of the various Divisions of the Company is the annual competition for the I.C.I. First Aid Trophy. To be successful such a competition should be something more than a means of selecting the best team. For the

onlookers it must provide a lively spectacle with action, and to the teams present a realistic and probable situation. Further, the tests should be designed to illustrate and pinpoint some of the more important aspects of first aid—in short, be educative as well as competitive. The tests prepared for this year's competition did indeed achieve all this.

The team test, set in a laboratory of a small works, provided a most instructive exercise for the teams, especially the captains, as well as holding the interest of the audience. It illustrated the importance of the captain taking time to assess the situation and then properly deploying his team to deal with the problems confronting them. There was the risk of escaping gas, windows to open to get fresh air, machinery to stop, glass to clear up and acid to neutralise, as well as two victims to treat. One casualty was blinded with blood from superficial cuts and obviously very distressed; the other lay entangled in an upturned stool, suffering from a simple fracture of his leg, with a piece of glass embedded in his forearm, and suffering from shock. The action taken in the opening stages of the situation

was important. The risk of danger over, the relative importance of the two cases assessed, treatment and disposal could proceed smoothly.

Although the teams tackled a fairly complicated situation well, captains did not give enough thought to the initial risks, nor were the teams given adequate direction at that stage. The general handling of the casualties and the treatment given were very satisfactory.

The individual test pieces were extremely well conceived, interesting and instructive. The settings, too, were excellent. As the most interesting one might select the first test, in which a man overcome in a sewer had to be rescued, and the third, in which a most realistic scalping injury was portrayed.

It was obvious that both competitors and audience enjoyed the day. To the former especially it was stimulating and helpful. Much of the success of the occasion was due to the skilful and kindly way in which the examiners conducted the tests, helped by the "patients" admirably acted by members of the Casualties Union, and the excellence of the stage management.



Team test: a laboratory accident causes cuts from flying glass and a fracture of the tibia and fibula



Individual test 1: a man becomes unconscious in a manhole and has to be extricated for artificial respiration



Individual test 2: a falling crate fractures a worker's pelvis and damages his bladder and urethra



Individual test 3: a partial scalping. Test 4 (not shown) presented a case of fractured patella and frostbite.

Team	Team Test (200 points)	Individual Tests (200 points)	Combined Tests (400 points)
1. Salt (Winsford) ..	133	154	287
2. General Chemicals (Castner-Kellner)	129	152	281
3. Alkali (Lostock) ..	132	147	279
4. Paints (Slough) ..	115	159	274
5. Billingham (Dowlais)	113	159	272
6. Lime (Buxton) ..	121	145	266
7. Plastics (Darwen) ..	134	131	265
8. Wilton (Bain) ..	142	122	264
9. Leathercloth (Hyde) ..	129	122	251
10. Nobel (St. Rollox) ..	123	122	245
11. Dyestuffs (Huddersfield)	131	107	238
12. Metals (Summerfield)	105	129	234

DR. FLECK ELECTED TO ROYAL SOCIETY

Dr. Alexander Fleck, Chairman of I.C.I., was elected a Fellow of the Royal Society on 17th March.

Dr. Fleck is the fifth member of I.C.I. to have been admitted to the Society. Dr. F. A. Freeth, who retired from I.C.I. in 1952, has been a Fellow since 1925 and Lord Waverley (a non-executive director of I.C.I.) since 1945. The first Lord Melchett and the late Sir Wallace Akers were also Fellows.

The Royal Society, foremost among the learned societies of the world, was granted a charter of incorporation in 1662, and King Charles II's signature is the first in the Charter Book signed by all Fellows on their admission. Only twenty-five new Fellows, chosen for their distinction in a branch of science, may be elected each year. Apart from these, Fellows of the Society include members of the Royal Family and persons of very great distinction.

FOUR DIVISIONS TO SHARE NEW POWER STATION

A new power station, costing several million pounds, is to be built at Thornton-Cleveleys, Lancs, to supply steam and power to three works in the area: Fleetwood Works (Alkali Division), Hillhouse Works (General Chemicals and Plastics Divisions) and Burn Hall (Dyestuffs Division).

The four Divisions use considerable quantities of steam and electrical power, but the boilers installed at present give steam at only 170 lb./sq. in., so very little electrical power can be generated before it is used in the works. Most of the power is therefore being imported from the B.E.A.

The high-pressure boilers of the new power station will be fired by cyclones. This system consists of a circular furnace 9 ft. in diameter formed by tubes connected into the boiler circulating system and connected to the front of the boiler. Air and semi-pulverised coal are blown in through several adjacent ports and intense combustion takes place, the smaller particles being burnt in suspension while the larger particles are trapped by the molten slag coating the walls of the furnace. The hot gases from the cyclone furnace pass over the radiant and convection heating surface of the boiler. The high rate of combustion increases the efficiency of the boiler and reduces its size and capital cost.

The cyclone furnace also has the advantage that 85% of the ash in the coal leaves the boiler furnace as slag and falls through water sprays, where it is broken up to form heavy particles the size of small gravel. About 5% of the ash is volatilised, so only 10% leaves the boiler as dust in the flue gases. All but a very small amount of this will be eliminated in the Thornton station by electrostatic precipitators, and the remaining fine particles will be completely dispersed by the 300 ft. high chimney.

ACCIDENT RATE: NEW LOW

For the first time in the Company's history the annual accident frequency rate is below 1.0. That is to say, for every 100,000 hours worked in I.C.I. during 1954 there was less than 1 lost time accident. The actual figure was 0.992.

This news was given in "The I.C.I. Safety Standard," a new monthly journal for supervisors produced by Division safety departments. Designed as a monthly contact with foremen in all Divisions of the Company, the publication contains topical news and illustrated articles on safety practices and appliances together with safety hints and occasional whimsical versions of the consequences of unsafe working practice. In illustration of the latter, "Careless" Charlie, who has already made his debut, and other imaginary characters will appear regularly.

Distribution of the first issue of "The I.C.I. Safety Standard" reached a total of just over 3000. By the time the second issue appeared several Divisions had increased their original orders for copies by more than 100%.

The journal is printed by Engineering Services Department in London.

POTASH PROJECT ABANDONED

After seven years' work at a cost of more than £400,000 I.C.I. has decided not to proceed with the development of the North Yorkshire potash deposits. A statement by the Board last month said that the winning of the deposits would present difficulties that could only be solved by an organisation familiar with the special deep mining techniques involved.

Potash-bearing brine and sylvinite (a mixture of sodium chloride and potassium chloride) were first revealed at Aislaby, near Whitby, by the D'Arcy Exploration Company in 1938. I.C.I. put down boreholes soon afterwards to prove the extent of the deposits and found two beds of sylvinite, at 3500 and 4500 ft. The lower bed extended over an area of 24 square miles and was estimated to contain enough potassium chloride to satisfy 200 years' home consumption.

It was hoped that the potash could be extracted in much the same way as I.C.I. extracts salt from underground deposits—by forcing water down a borehole and extracting it in solution. Trials over sixteen months proved that potassium chloride could not be economically won this way, leaving deep mining as the only alternative.



I.C.I. have offered the technical information gained to the Government and to Fisons Ltd. (who have been associated with the exploration since 1948).

HEAD OFFICE

New Head of Pensions and Assistance Funds

Mr. F. Hill has been appointed head of the Pensions and Assistance Funds Department. He takes the place of Mr. J. A. L. Young, who has been appointed a Billingham Division director.



Mr. F. Hill

Mr. Hill, who is 43, joined the Company at Fleetwood Works, near his home town of Thornton, in 1927. He began as a junior clerk on the commercial side, but by dint of hard work and evening study qualified as a chartered secretary and certified accountant. He was transferred to the Pensions and Assistance Funds Department in London in 1938 and

has remained in the department ever since.

During the war he joined the ranks of the R.A.O.C., and after five years' service (including two in India) was demobilised as a captain. When he returned to I.C.I. he enjoyed a brief interlude in Windermere, whence the Workers' Pension Fund had been evacuated, before coming back to London. He was appointed secretary of the Pension Funds and of the I.C.I. Savings Bank in 1951.

ALKALI DIVISION

"Watchie" brings home the Bacon

The fresh pork and sausages which appear regularly on the menu of the Division's canteens in the Northwich area do so largely "by courtesy of" Mr. Edward Wojciechowicz, one of the wardens of the Marbury Hall hostel for employees.

Mr. Wojciechowicz, known to his friends as "Watchie," started pig-keeping when he was warden of the Middlewich Manor hostel. Tied by his job to the remote country, he felt he must have something to occupy his spare time. He started by gardening and keeping chickens and ducks. Then, with a number of his friends, including the catering supervisor and her assistant, he formed the Manor House Pig Club.

"Watchie" and his staff built sties from scrap materials and fattened pigs two at a time—one for the government and one to supplement hostel rations. But within nine months of the pigs moving in the Company decided to

close Middlewich Manor as a hostel and transfer "Watchie" to their Polish hostel at Vale Royal. There were no sties at Vale Royal, but "Watchie," steadfastly supported by the catering staff—always interested in cheap food—considered every possibility. Finally the pigs were comfortably bedded down in the old kennels, and the establishment was increased to four.

In September 1952 it was decided to transfer the Polish employees from Vale Royal to Marbury, and so once again the Manor House Pig Club's life was in jeopardy. At Marbury there appeared to be no prospect for pigs, but "Watchie," by now an enthusiastic pig breeder, set to work once again and built sties with voluntary labour and scrap materials from the works.

Since then "Watchie's" pigs have gone from strength to strength. With the end of bacon rationing it was no longer necessary to run the enterprise as a pig club and all the pigs slaughtered could be used for the benefit of employees. Swill supplies have been increased by collection from canteens in the Northwich area, and in exchange fresh pork, sausages, etc., are supplied for canteen dinners. Gilts have been bought, and pigs are now being successfully reared from Marbury's own sows, the piglets enjoying such "mod. con." as infra-red lighting. The population of the piggery has increased to 45.

The extra work involved has meant that one of "Watchie's" colleagues, Mr. Niziolek, now combines looking after the pigs with his other duties in the hostel. "Watchie" himself, however, still takes an active interest in the piggery, and in spite of such experiences as sitting up all night suckling new-born pigs whose mother had tried to kill them still considers pig breeding a fascinating hobby.

BILLINGHAM DIVISION

Fright for Feathered Foulers Fails

An attempt to get rid of the starlings that roost every night on the roofs and pipe-bridges of Ammonia Works has ended in failure. Although the latest scientific method was used, the birds still perch there in their thousands, fouling pipe-bridges and walkways and blocking up guttering on roofs.

The method used was to capture three starlings and hold them in front of a tape recorder. Their agonised warning squawks, played back through loudspeakers, disturbed some of the birds momentarily. But within a few minutes they were all back on their perches, and some onlookers thought they detected a new note of mirth in the birds' ceaseless chatter.

After this news was published in the Billingham Division newspaper "The Billingham Post" it appeared in several national and provincial newspapers. The story eventually reached France, gathering momentum as it went, and appeared in *L'Oise Matin* under the heading "In spite of diabolical guile, scientists capitulate to

starlings who are literally paralysing a giant factory." A French firm reacted by offering Billingham a cure for starlings in the form of doped bait.

BRITISH VISQUEEN LTD.

Royal Visitor at Packaging Exhibition



H.R.H. the Princess Royal expressed great interest in the packaging of handbags in 'Visqueen' film when she attended the National Packaging Exhibition at Olympia. After speaking to Mr. W. J. J. Webb, who was in charge of the British Visqueen stand, she asked for three dozen 'Visqueen' bags to be sent to her for her personal use.

DYESTUFFS DIVISION

Mayoress at 20

A 20-year-old secretary from Hexagon House is to become Mayoress of Middleton, Lancs—the youngest the town has ever had. She is Mrs. Valerie Allen, whose father, a widower, has been invited to be the next mayor.



Mrs. V. Allen

The new mayoress will celebrate her 21st birthday and her first wedding anniversary during her year of office. Her husband is a national serviceman with the R.A.S.C. in Japan. He will complete his service in February 1956—just in time to see Mrs. Allen in her last two months as Mayoress of Middleton.

Mrs. Allen's father, Mr. E. H. Hind, has been a councillor for the South Ward of Middleton since 1947.

Motherwell's Centre Half

Mr. W. Mason, an assistant technical officer in Z Department at Grangemouth Works, has certainly justified the confidence the Motherwell team manager had in him last November, when he was asked to play at short notice in the first team. Bill Mason had previously had two and a half seasons in junior football, and his last team was the Linlithgow Rose, from which team Motherwell signed him on in April 1954.

At the start of the current season Mason played centre



(Photo: Glasgow Evening News)

Mr. W. Mason (left) in a match against Clyde at Shawfield Park

half in the reserve team, but his first run-out in the A Division was against Partick Thistle, at right half, which is slightly out of his normal position. Since then he has made the centre-half berth his own, and in his latest games he has played some outstanding football and has received a very good press indeed.

Best of All

In the 1954 finals examination of the City and Guilds of London Institute in Photography (Scientific Applications) Mr. E. A. Newman obtained the highest marks in the country and was awarded the Institute's silver medal. Mr.



Mr. E. A. Newman and his medal

Newman, who joined the Company seven years ago, is an assistant technical officer in the Photographic Laboratory of the Physical Chemical Division in the Research Department of Dyestuffs Division.

GENERAL CHEMICALS DIVISION

New Rail Tanks for Continental Deliveries

Until recently the Division's bulk deliveries to the Continent were made in rail tanks hired from Germany and modified to suit British requirements. Now the Division has brought into commission its own rail tanks, which have been specially built to meet Continental and home running requirements.

The international specification known as the R.I.V. (Regulamento Internazionale Veicoli) enabling railway wagons to pass freely between countries on the Continent differs appreciably from the British, notably in wheelbase requirements, springing, the provision of screw brakes,



(Photo: Torben Hesselbo)

A General Chemicals rail tank is shunted to a customer's sidings in Copenhagen

and compressed air fittings for continuous braking. The I.C.I. tanks now going into service are some of the first to be built in this country to the R.I.V. standard and as an added refinement have been fitted with roller-bearing axles.

There has been a six-fold increase in the Division's bulk deliveries to the Continent during the last three years. Apart from destinations in the near Continental countries, the tanks go as far as Sweden and Italy. Most consignments go via the Harwich-Zeebrugge train ferry, but certain products can be sent by the only other train ferry from this country, Dover-Dunkirk, which is convenient for destinations in France.

METALS DIVISION

Chairman Retires

After 45 years with I.C.I. and its predecessors, Mr. C. E. Prosser has retired from the post of Division chairman.

During his long career Mr. Prosser has played a prominent part in the counsels of the non-ferrous metal industry. Now vice-president of the British Non-ferrous

Metals Federation, he has served as chairman of the Brass Wire Association and the Brass and Copper Tube Association, and is at present chairman of four other trade groups: the Manufactured Copper Association, the Condenser Plate Association, the Non-ferrous Wrought Metals Export Group, and the international relations sub-committee of the British Non-ferrous Metals Federation.



Mr. C. E. Prosser

During the last war Mr. Prosser was chairman of the Non-ferrous Tube and Tube Products panel, which was responsible to the government for ensuring adequacy of output.

He began his career with Elliott's Metal Co. in 1910. After war service in the South Wales Borderers, the Cheshire Regiment and the Machine Gun Corps he re-joined Elliotts, and at the time of the merger with I.C.I. was sales manager. He was appointed to the Division board in 1936 and became chairman in 1953.

So far as leisure-time activities are concerned, Mr. Prosser describes himself as a rabid golf enthusiast (he has twice done a hole in one) and a keen follower of rugby.

NOBEL DIVISION

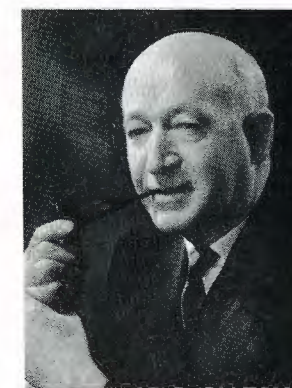
Retirement of Dr. Jenkins

Dr. W. J. Jenkins, who has been chairman of Nobel Division since 1st October 1951, retired on 31st March.

He came to the explosives industry during the first world war and was engaged at H.M. Factory, Pembrey, where he met many men who were subsequently to be his close colleagues in Nobel Division.

Not long after joining the Research Department of Nobel's Explosives Co. in Ardeer Factory Dr. Jenkins went to Bristol University to do research in colloid chemistry for the Department of Scientific and Industrial Research. He returned to Ardeer in 1922.

From the start of the second world war Dr. Jenkins managed the group of factories in the south of Scotland operated for the Ministry of Supply by Nobel Division. In 1942 he joined the board of the Division, when his immediate concerns were production and with the labour force employed. He was appointed a managing director of the Division some three years later, and in that post



Dr. W. J. Jenkins

he took much interest in all problems of productivity and human relations.

Besides his Company activity, he has given the benefit of his experience to several public bodies in Scotland. For many years he lived in Saltcoats, and for a period he was a member of the Saltcoats Town Council, where his contributions were esteemed by fellow members. In debate Dr. Jenkins is a good listener and a sympathetic critic when criticism is needed. He is always eager to hear, and encourages, the opposition viewpoint, so that all aspects of any problem can be examined.

Although a Welshman, his working life has been spent in Scotland, and his interest in Scotland's industrial development has been expressed positively by service on several important committees. Today he is a member of the executive committee of the Scottish Council (Development and Industry) and of the Chairman's Policy Committee; chairman of the Glasgow and West of Scotland Management Association; a director of the Glasgow Chamber of Commerce and a member of the Council of the F.B.I. in Scotland. He is also a member of the committee on the Supply of Teachers of Mathematics and Science set up by the Secretary of State for Scotland and a member of the Peat Committee set up by the Secretary of State, which has already done much valuable work. Recently Dr. Jenkins joined the East Kilbride Development Corporation.

Dr. Jenkins is succeeded as chairman of the Division by Dr. James Craik, who has been a managing director since 1953. His 28 years' service with the Company have included thirteen years in Research Department at Ardeer, three years as manager of Development Department and two years on the 'Ardil' project as deputy to Dr. A. G. White.

Plaque unveiled at Ardeer

On 17th January a memorial plaque to the late Mr. W. Rintoul was unveiled in Nobel Division Research Department, Stevenston.

Mr. William Rintoul was Research Manager of Nobel's



Mrs. A.C. Hetherington, Dr. James Taylor, Dr. A.C. Hetherington and Dr. W. J. Jenkins at the unveiling of the plaque

Explosives Co. from 1909 and continued in that post when the company became part of I.C.I.

At the ceremony Dr. W. J. Jenkins, Nobel Division chairman, introduced Dr. James Taylor, I.C.I. Group Director for Nobel and Metals Divisions. The formal unveiling of the plaque was performed by Mrs. A. C. Hetherington, daughter of Mr. Rintoul. Many of the men still in employment and many retired men who knew Mr. Rintoul attended and heard Dr. James Taylor pay tribute to his many qualities.

"We are proud," said Dr. Taylor, "of the fact that Ardeer was one of the pioneer industrial research departments in the country and that Mr. Rintoul, by his great foresight and capacity for inspiring others, founded a department which was not only outstanding when it was formed but which incorporated a great number of ideas and systems which have well stood the test of time and which have formed models for other later establishments."

PAINTS DIVISION

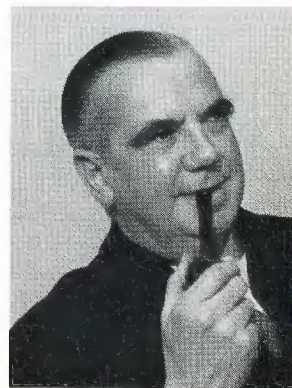
Mr. Bidgood Retires

After 35½ years' service Mr. H. W. G. Bidgood (Paints Division joint managing director) retired in February.

Mr. Bidgood's association with the Company has covered a period of immense development on the paints side of I.C.I. He began as a technical representative of the New Explosives Co., and he was later head of the old Demonstration Centre. This work and his own outlook coloured his whole subsequent approach to the paint business. When you sold paint to a man to use in his work, Mr. Bidgood used to say, unless you helped him to get the results he wanted you imperilled his livelihood and ran the risk of losing a customer.

This is characteristic of the simplicity of his view of work and life, which, linked with an exceptional friendliness of approach, have enabled him to understand and be understood by people in all walks of life. His simplicity owes much to the fact that he is interested in practical things. He has a small workshop at home. He has panelled his own dining room. He can sail a boat. Ever since, as a boy, he was set up by his father with a miniature chemical laboratory at home he has been a humble observer and learner. Many will recall mishaps in the Division's history when they were deeply relieved that Mr. Bidgood's comment was no more severe than "Can we learn anything from this?"

Mr. Bidgood was appointed a delegate director in 1938, a commercial director of Paints Division in 1943 and



Mr. H. W. G. Bidgood

joint managing director in 1948. From 1934 to 1947 he was chairman of the Association of Cellulose Lacquer Manufacturers, and he was president of the National Paint Federation in 1952.

I.C.I. Players perform at Hospital

More than 300 sick people were given a welcome change from hospital routine when the Slough I.C.I. Players took



The cast of London Wall

their latest production to the Peppard Chest Hospital recently. Not all the patients were able to see the play—John van Druten's *London Wall*—but the hospital's radio system enabled the bed cases to listen to it in their wards.

PHARMACEUTICALS DIVISION

Progress at Alderley Park

Since the beginning of the year there has been increasing activity at Alderley Park, where stages one and two of the new Division headquarters project are now well under way. The first buildings to be erected will be laboratories and offices for the Biological and Chemical Research Departments, now at Blackley and Stamford Lodge, and when these are completed in about two years approximately 300 chemists and other staff and workers will be employed at Alderley Park.

The farmland that is not to be built on will be used for field trials with veterinary products developed in the laboratories and for the maintenance of a high standard of agriculture. Already trials with the intensive grazing of sheep are taking place. A programme of rehabilitation of the woodlands of the estate, designed to combine the preservation of the amenities and traditional landscape of the district with the practice of good forestry, has also begun. All these operations are being conducted so as to cause the minimum of disturbance to the wild life for which Radnor Mere is well known.

'TERYLENE' COUNCIL

Hon. Fellowship for 'Terylene' Inventor

Honorary Fellowship, the highest honour the Textile Institute can bestow, has been conferred on Mr. J. R. Whinfield, C.B.E., M.A., F.R.I.C., for his outstanding contribution to the science and technology of man-made

fibres. The award took place at Institute headquarters on the occasion of the spring convocation on 25th March.

Mr. Whinfield is the twelfth recipient of this award, made only in recognition of major advances in textile technology or science achieved by an individual as a result of many years of ingenuity and application.

Mr. Whinfield received the C.B.E. in the last Birthday Honours List for his services in the discovery of 'Terylene.'

New Member of Council

Mr. H. West has been appointed chief engineer and a member of the 'Terylene' Council.

Mr. West, who began his career with Billingham Division 27 years ago, has been with the 'Terylene' Council since May 1953. He has, however, been associated with 'Terylene' since 1947, when, on the staff of Dye-stuffs Division, he was responsible for building the 'Terylene' polymer pilot plant at Huddersfield.

Previously Mr. West was connected with the design and construction of the nylon polymer plant, and during the war he built the high-octane spirit plant at Heysham for the Ministry of Aircraft Production.



Mr. H. West

WILTON WORKS

Double Bond Street



The Wilton site has long had a Piccadilly Circus; to complement this it now has Double Bond Street—a name suggested by the late Mr. Leo Knapp (general works manager), which will be a constant reminder of his gift for seeing the humorous side even of such serious subjects as chemistry.

Double Bond Street, formerly known as Refinery Road, is the main entrance to Olefine Works. Ethylene and propylene, the main products of the works, both possess the useful property of having their carbon atoms linked with only two hydrogen atoms, so that there are two bonds available to link the carbon atoms to each other. It is this double bond which enables ethylene, propylene and other olefines to take part readily in chemical reactions leading to the synthesis of more complex organic compounds.

I.C.I.A.N.Z.

New Nitrating House built in Four Weeks

What is described by Mr. L. Donaldson, manager of the Nobel's Explosives factory at Deer Park, as possibly the biggest and quickest reconstruction job ever undertaken by the Company was completed on 27th February. It consisted of the rebuilding and re-equipping in one month of the entire nitrating house, destroyed by an explosion on 27th January.

There were no casualties when the explosion occurred; a thunderstorm was raging at the time, and in accordance with the safety regulations all the nitrating house men had withdrawn to their messrooms.

The destruction of the nitrating house stopped all production of industrial explosives, essential to such vast Australian enterprises as the Snowy River project, and it was imperative that production should start again as soon as possible. Supplies of explosives from Ardeer, from the C.I.L. plant at James Island and from A.E. & C.I. were immediately made available, but even the fastest ships could not have reached Australia in time to ensure that there would be no hold-up in supplies to customers.

Four hundred men, including specialists such as lead-burners from other I.C.I.A.N.Z. factories, worked night and day on the job. The new buildings were equivalent in size to four average dwelling houses, complete with windows, doors and ceilings, but they had to be fitted with a maze of pipes, vessels, and intricate technical equipment. Around them 50,000 sandbags full of wet concrete had to be built into new protective ramparts.

In spite of being hampered by heavy rains, the reconstruction team finished the job 24 hours ahead of schedule, the first batch of nitroglycerine passing through the new nitrating house on 27th February.

'Visqueen' Wrapper rids House of Termites

A fully furnished house in Sydney was rid of termites and wood-borers recently by being wrapped in 'Visqueen' polythene sheeting and then fumigated with methyl bromide gas.

This was the first time the operation (an American idea) had been attempted in Australia, and it was watched by an imposing gathering of government and industrial scientists and officials. It was a complete success. Within minutes of the plastic sheeting being whipped off the house the owners were able to walk in: not a termite or borer remained alive.



A Sydney house is wrapped in 'Visqueen' before being fumigated

Before the huge plastic wrapper was placed over the house projections on the roof and walls were covered with felt and hessian. Four separate sheets of 'Visqueen' were draped over the roof, their edges being rolled together and fastened with metal clips. At ground level the 'Visqueen' was weighted with sand, completing the seal.

The cylinders of methyl bromide were carefully spaced inside the house. After they had been turned on the house remained under the gas treatment for twenty-four hours.

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OUR NEXT ISSUE

Our May issue is a 'Terylene' number. Eight pages are given over to colour pictures of the new 'Terylene' Works at Wilton. There are some remarkably fine shots showing the various stages of 'Terylene' manufacture, and a lucid supporting story.

Following this is a feature originally planned for the April *Magazine*. This is an article written by Mr. A. R. Donald, Research Works General Foreman at Billingham, telling of his experiences operating a short-wave radio transmitter.

The *Magazine* ends with a most informative account of a family holiday in France last year. Five grown-ups and two children shared a villa in Brittany for three weeks. The total cost, including fares and all extras, was under £18 a head. The article tells how much fun and good living were got out of this small expenditure.

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BINDING OF 1954 MAGAZINES

All those requiring their 1954 *Magazines* to be bound are asked to tell their *Magazine* correspondent now. The cost of 12s. 6d. will include the provision of an index. Inserts can be bound with the *Magazines*, but these, together with a set of *Magazines*, must be provided by the person placing the order.

THE BOX

By A. R. Lea (Alkali Division)

Over 60,000 miles journeying round potteries and pits with an 'Alfloc' test kit—it hardly sounds an inspiring subject for a *Magazine* article. But read it and see.

'ALFLOC' Test Kit D is its real name; it measures about 10 in. × 14 in. × 22 in. and weighs 50 lb. in the morning but 500 lb. at the end of a hard day's work. You could have one of your own for £35—and a very unusual cocktail cabinet it would make to impress your friends and mix your Martini's to the nearest 0.1 ml.

It was designed, however, for a different sort of therapy, and this portable laboratory is to the 'Alfloc' Technical Service representative what the little black bag, or nowadays perhaps the battered brown attaché case, is to the doctor. Is the lime-soda softener sluggish in action? Its softened water cloudy? With the aid of The Box the trained 'Alfloc' rep, by a few rapid tests, will quickly diagnose the complaint and prescribe the remedy. Is the boiler's drum coated? And its many feet of tubes blocked? Does its bosom heave and toss in the grip of that dreadful disorder called Carry-over? A little more difficult this time; but nevertheless the 'Alfloc' rep, The Box and careful nursing of loved ones will quickly have it on the road to recovery.

Small wonder then that the 'Alfloc' man and his box are a welcome sight in more than 5000 boiler-houses in all parts of the world.

As one of these reps, The Box was my constant companion over 60,000 miles of journeying round potteries and pits, the one-way streets of Birmingham and the no-way cart tracks of rural Worcestershire.

More recently we rode together over the African veldt, both of us rather frightened by the size and speed of our Ford V8, and performed our ritual before curious brown eyes in the shadow of Table Mountain. We worked on a peaceful fruit farm in Evesham while the engineer picked me a basket of plums, and at the time of the troubles early in 1952 we stood together in a textile factory near Alexandria wondering whether the Egyptian stoker was planning to knife me as soon as I bent down to read a burette.

I think I may say in fact that some of the best years of my life have been spent in the company of The Box. Perhaps that is why I want to write a sort of obituary for it now that the days of its teak and glass solidarity are numbered. Soon it will be replaced by a more streamlined (and I sincerely hope a less heavy) affair, mainly of plastic—a forerunner of the test kit the first men on the moon will take with them in case they find any water. More efficient, no doubt; but will one be able to stand on it to see the Queen go by, or to reach a bottle of silver nitrate from the top shelf in the garage? I doubt it.

Test Kit D, then, was my pride and joy. My mother when she first saw it said "Oh well, he always wanted a chemistry set," and my children cried when I finally handed it over to my successor. It was "the chemical works" to some of my customers, "the brewery" to the thirsty ones, and to one power station engineer in

Burton, a student of Sherlock Holmes, it was (and probably still is) "the mongoose box." I had a number of names for it myself, some affectionate, some explosive—the latter reserved for the occasions when I dug one of its sharp corners in my calf or felt its friendly grip biting a little too deeply into my hand.

For most of the 60,000 miles it sat on the back seat of my pre-war Austin 10, and a more severe critic of my driving never haunted me. A bumpy road taken too quickly evoked a rattle of disgust; a corner too rapidly negotiated called forth a creak of concern. One unforgettable day I took a humpback bridge in a hurry, and I swear that it gave a cry of pain as it pitched head first on to the floor, a pathetic trickle of something red appearing from under its lid. I did not drive above 30 m.p.h. for many days afterwards.

Getting The Box on to the back seat required some skill, particularly if one had the water sampling cans in the other hand. The technique was to fling open the car door, swing The Box upward and forward, and give a push with the right knee at the critical moment. The wrong moment meant a dig in the thigh or a grazed shin. When I became experienced at it I had a great deal of sadistic amusement watching the new boys trying to imitate my action.

Taking it out of the car was equally difficult, and I never quite succeeded in analysing my movements, which I know included a heave, a twist and a wiggle, followed by some footwork worthy of a Compton to keep it off my toes as I finally deposited it on the floor.

In some factories respect for The Box caused them to send a large man out to my car to carry it in for me. Elsewhere I had to carry it myself across yards and railway tracks and even up staircases. No wonder that I became expert at forcing my car into places where Vehicles Are Forbidden and manœuvring it as close as possible to the boiler house. I only came to grief once—when I ran a back wheel off a loading bay and six strong Staffordshire lads had to push me back on again with many an "ay" and a "cor!"

I carried out my tests sometimes in the laboratory (if there was one), but more usually in the workshop, or in Fred the foreman's office. People got used to it in time, but at first The Box was always a focus of interest. To the technician it was a neat solution to a problem of packing multum in parvo. To the layman it was a box of tricks with which I was able in some

mysterious way to change the colour of water. Jokes about it abounded, of course, usually concerning the possibility of my producing alcoholic liquor, like a new Moses smiting the rock. It is a sign of the essential brotherhood of man that the jokes followed the same pattern from Port Sunlight to Port Elizabeth.

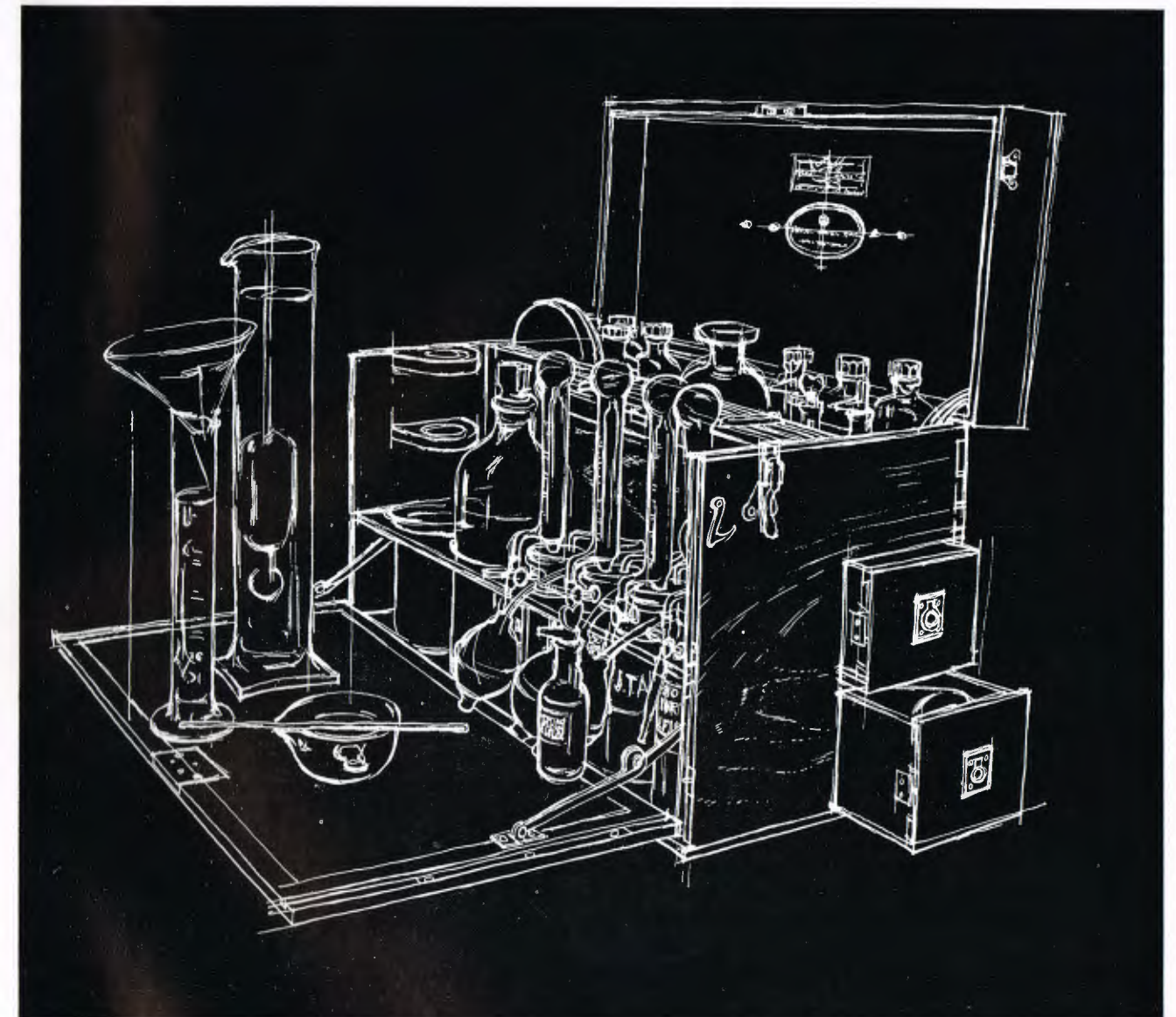
I have only heard The Box slighted once—in Hottest Africa, when in answer to my enquiries our local agent said "Yes, we have one somewhere here; would you like to take it back with you? It's no use to us." At the time I was travelling by air, carrying my dressing-gown to avoid paying excess baggage.

If you have read thus far you will be wondering when I am going to describe the moments of joy and sorrow that The Box brought me. They were remarkably few, for ours was a prosaic friendship on the whole, free from both highlights and lowlights. Yet I remember gladly the chemist in a country dairy who gave me cream at the time when it was quite unobtainable and is probably convinced to this day that the bottom right-hand drawer of The Box is specially provided to hold such gifts.

On another occasion I was testing in a rather shabby boilerhouse, The Box resting on one end of a bench while on the other end sat the boiler attendant, eating his bacon sandwiches. As he screwed up the paper, he rose and the bench tipped up, throwing my precious Box, my samples of water and—greatest catastrophe of all—my mug of tea among the dust and ashes. Fortunately I saved most of the gear without damage, but the tea was irretrievably lost.

When I became an office wallah a year or two back The Box and I parted. I have a nodding acquaintance with the office demonstration model, and very occasionally I heave myself out of the chair, fly off somewhere and meet a Box which only understands Dutch and works things out in German degrees. But apart from such incidents our association must be regarded as finished.

I have tried to recall the moment of parting; but although I can remember the date, I am afraid my thoughts at the time were full of the Company car which I also had to give up. Sometimes as I sit in my nice warm office on a winter day I think of the Lichfield-Utttoxeter road on a cold night with never a garage open for eighteen miles and only The Box for company. As I drink my genteel coffee I remember



... 'Alfloc' Test Kit D was my pride and joy

mugs of boilerhouse tea—the hottest and strongest on earth—and cigarettes handed round in return, to be ignited with glowing coals from the boiler furnace. On hot summer days I remember shirtsleeved trips over the Malvern Hills down into Hereford and the stroll by the river in the evening before the journey home. I remember my clients, too—at any rate the nice ones, who were always pleased to see me and rushed to clear a place for The Box to sit on. Where are they now? Still working in the same places, most of them, and no doubt enquiring occasionally after that chap Lea who used to come here for 'Alfloc' and went up to London, a fate worse than death.

All these things I remember sometimes, and with them The Box which shared my experiences. I imagine it even now, criticising its new master's driving and dismaying him with its raging thirst for distilled water. I like to think that the new master polishes it with Ronuk occasionally and washes the bottles and beakers in Stergene. And when it becomes too old to be carried around any longer I like to think of it ending its days in peace cosily tucked away in the office of some nice pipe-smoking boilerhouse foreman who treats it with loving care and opens it with reverence to perform tests his friend the 'Alfloc' Service representative taught him.



"Littondale, Yorks"

Photo by Miss R. Higginbottom (Leathercloth Division)